

10/564277

SEQUENCE LISTING

IAP20 Rec'd PCT/PTO 11 JAN 2006

<110> Develogen Aktiengesellschaft für entwicklungsbiolo

<120> Use of DG153 or DG177 secreted protein products for preventing and treating pancreatic diseases and/or obesity and/or metabolic syndrome

<130> 31130PWO WWHC

<140> PCT/EP2004/007531

<141> 2004-07-08

<150> EP03015883.6

<151> 2003-07-11

<150> EP03016710.0

<151> 2003-07-22

<160> 11

<170> PatentIn Ver. 2.1

<210> 1

<211> 1103

<212> DNA

<213> human

<220>

<223> nucleotide sequence of human DG153 protein

<400> 1

```

cttcgggtcct gctgtagtgc cttctgcgcc aggcccgggt caatcagcgg ccacaactgt 60
ctagggtcctca gacaccacca gccaatgagg gagggcacgt ggagcccggt ctgggctcgc 120
ggctcctgac caatggggaa gtggcatgtg ggagggcgcc ggggttcccc ccgccaatgg 180
ggagctacgg cgcgcggccg ggacttgagg gcggtgcggc gcggcgggtg cggttcagtc 240
ggtcggcggc ggcagcggag gaggaggagg aggaggagga tgaggaggat gaggaggatg 300
tgggccacgc aggggctggc ggtgcgcgtg gctctgagcg tgctgccggg cagccggggc 360
ctgcggccgg gcgactgcga agtttgtatt tcttatctgg gaagatttta ccaggacctc 420
aaagacagag atgtcacatt ctcaccagcc actattgaaa acgaacttat aaagttctgc 480
cggaagcaa gaggcaaaga gaatcggttg tgctactata tcggggccac agatgatgca 540
gccacaaaaa tcatcaatga ggtatcaaag cctctggccc accacatccc tgtggagaag 600
atctgtgaga agcttaagaa gaaggacagc cagatatgtg agcttaagta tgacaagcag 660
atcgacctga gcacagtga cctgaagaag ctccgagtta aagagctgaa gaagattctg 720
gatgactggg gggagacatg caaaggctgt gcagaaaagt ctgactacat ccggaagata 780
aatgaactga tgcctaaata tgccccaag gcagccagtg caccgaccga tttgtagtct 840
gctcaatctc tgttgacct gagggggaaa aaacagttca actgcttact cccaaaacag 900
cctttttgta atttattttt taagtgggct cctgacaata ctgtatcaga tgtgaagcct 960

```

ggagctttcc tgatgatgct ggccctacag taccctcatg aggggattcc cttccttctg 1020  
 ttgctggtgt actctaggac ttcaaagtgt gtctgggatt tttttattaa agaaaaaaaa 1080  
 tttctagctg tcaaaaaaaaa aaa 1103

<210> 2

<211> 234

<212> PRT

<213> human

<220>

<223> amino acid sequence of human DG153 protein, longer  
 variant

<400> 2

Met Gly Lys Trp His Val Gly Gly Arg Arg Gly Ser Pro Arg Gln Trp  
 1 5 10 15

Gly Ala Thr Ala Arg Gly Arg Asp Leu Glu Ala Val Arg Arg Gly Gly  
 20 25 30

Cys Gly Ser Val Gly Arg Arg Arg Gln Arg Arg Arg Arg Arg Arg  
 35 40 45

Arg Met Arg Arg Met Arg Arg Met Trp Ala Thr Gln Gly Leu Ala Val  
 50 55 60

Arg Val Ala Leu Ser Val Leu Pro Gly Ser Arg Ala Leu Arg Pro Gly  
 65 70 75 80

Asp Cys Glu Val Cys Ile Ser Tyr Leu Gly Arg Phe Tyr Gln Asp Leu  
 85 90 95

Lys Asp Arg Asp Val Thr Phe Ser Pro Ala Thr Ile Glu Asn Glu Leu  
 100 105 110

Ile Lys Phe Cys Arg Glu Ala Arg Gly Lys Glu Asn Arg Leu Cys Tyr  
 115 120 125

Tyr Ile Gly Ala Thr Asp Asp Ala Ala Thr Lys Ile Ile Asn Glu Val  
 130 135 140

Ser Lys Pro Leu Ala His His Ile Pro Val Glu Lys Ile Cys Glu Lys  
 145 150 155 160

Leu Lys Lys Lys Asp Ser Gln Ile Cys Glu Leu Lys Tyr Asp Lys Gln  
 165 170 175

Ile Asp Leu Ser Thr Val Asp Leu Lys Lys Leu Arg Val Lys Glu Leu  
180 185 190

Lys Lys Ile Leu Asp Asp Trp Gly Glu Thr Cys Lys Gly Cys Ala Glu  
195 200 205

Lys Ser Asp Tyr Ile Arg Lys Ile Asn Glu Leu Met Pro Lys Tyr Ala  
210 215 220

Pro Lys Ala Ala Ser Ala Pro Thr Asp Leu  
225 230

<210> 3

<211> 179

<212> PRT

<213> human

<220>

<223> amino acid sequence of human DG153 protein,  
shorter variant

<400> 3

Met Trp Ala Thr Gln Gly Leu Ala Val Ala Leu Ala Leu Ser Val Leu  
1 5 10 15

Pro Gly Ser Arg Ala Leu Arg Pro Gly Asp Cys Glu Val Cys Ile Ser  
20 25 30

Tyr Leu Gly Arg Phe Tyr Gln Asp Leu Lys Asp Arg Asp Val Thr Phe  
35 40 45

Ser Pro Ala Thr Ile Glu Asn Glu Leu Ile Lys Phe Cys Arg Glu Ala  
50 55 60

Arg Gly Lys Glu Asn Arg Leu Cys Tyr Tyr Ile Gly Ala Thr Asp Asp  
65 70 75 80

Ala Ala Thr Lys Ile Ile Asn Glu Val Ser Lys Pro Leu Ala His His  
85 90 95

Ile Pro Val Glu Lys Ile Cys Glu Lys Leu Lys Lys Lys Asp Ser Gln  
100 105 110

Ile Cys Glu Leu Lys Tyr Asp Lys Gln Ile Asp Leu Ser Thr Val Asp  
115 120 125

Leu Lys Lys Leu Arg Val Lys Glu Leu Lys Lys Ile Leu Asp Asp Trp  
 130 135 140

Gly Glu Thr Cys Lys Gly Cys Ala Glu Lys Ser Asp Tyr Ile Arg Lys  
 145 150 155 160

Ile Asn Glu Leu Met Pro Lys Tyr Ala Pro Lys Ala Ala Ser Ala Arg  
 165 170 175

Thr Asp Leu

<210> 4

<211> 3714

<212> DNA

<213> human

<220>

<223> nucleotide sequence of human DG177 protein

<400> 4

```

ggcacgaggg atcggcgagg ctccacctc cgcttacagc tcgctgccc cgctcctgcc 60
cgcgccccca ggagacctgg accagaccac gatgtggaaa cgctggctcg cgctcgcgct 120
cgcgctgggtg gcggtcgccct gggtcgcgcg cgaggaagag ctaaggagca aatccaagat 180
ctgtgccaat gtgtttttgtg gagccggccg ggaatgtgca gtcacagaga aaggggaacc 240
cacctgtctc tgcattgagc aatgcaaacc tcacaagagg cctgtgtgtg gcagtaatgg 300
caagacctac ctcaaccact gtgaactgca tcgagatgcc tgcctcactg gatccaaaat 360
ccaggttgat tacgatggac actgcaaaga gaagaaatcc gtaagtccat ctgccagccc 420
agttgtttgc tatcagtcca accgtgatga gctccgacgt cgcacatcc agtggctgga 480
agctgagatc attccagatg gctggttctc taaaggcagc aactacagtg aaatcctaga 540
caagtatttt aagaactttg ataattggtga ttctcgctg gactccagtg aattcctgaa 600
gtttgtggaa cagaatgaaa ctgccatcaa tattacaacg tatccagacc aggagaacaa 660
caagttgctt aggggactct gtgttgatgc tctcattgaa ctgtctgatg aaaatgctga 720
ttggaaactc agcttccaag agttttctca gtgcctcaac ccatctttca accctcctga 780
gaagaagtgt gccctggagg atgaaacgta tgcagatgga gctgagaccg aggtggactg 840
taaccgctgt gtctgtgcct gtggaaattg ggtctgtaca gccatgacct gtgacggaaa 900
gaatcagaag ggggcccaga cccagacaga ggaggagatg accagatatg tccaggagct 960
ccaaaagcat caggaaacag ctgaaaagac caagagagtg agcaccaaag agatctaattg 1020
aggaggcaca gaccagtgtc tggatcccag catcttctcc acttcagcgc tgagttcagt 1080
atacacaagt gtctgttaca gtcgccaaat caccagtatt tgcttatata gcaatgagtt 1140
ttattttgtt tattttgttt gcaataaagg atatgaaggt ggctggctag gaagggaagg 1200
gccacagcct tcatttctag gagtgtttta agagaaactg taaatgggtg tctggggctg 1260
gaggctagta aggaaactgc atcacgattg aaagaggaac agacccaaat ctgaacctct 1320
tttgagttta ctgcatctgt cagcaggctg cagggagtgc acacgatgcc agagagaact 1380
tagcagggtg tccccggagg agaggttttg gaagctccac ggagaggaac gctctctgct 1440
tccagcctct ttccattgcc gtcagcatga cagacctcca gcatccacgc atctcttggt 1500

```

```

cccaataact gcctctagat acatagccat actgctagtt aaccagtggt ccctcagact 1560
tggaatggagt ttctgggagg gtacacccaa atgatgcaga tacttggtata ctttgagccc 1620
cttagcgacc taaccaaatt ttaaaaatac tttttaccaa aggtgctatt tctctgtaaa 1680
acactttttt tttggcaagt tgactttatt cttcaattat tatcattata ttattgtttt 1740
ttaatatattt attttcttga ctaggtatta agcttttgta attatttttc agtagtccca 1800
ccacttcata ggtggaagga gtttgggggt cttcctgggt caggggctga aataaccag 1860
atgccccac cctgccacat actagatgca gcccatagtt ggcccccta gcttccagca 1920
gtccactatc tgccagagga gcaagggtgc cttagaccga agccagggga agaagcatct 1980
tcataaaaaa ctttcaagat ccaaacatta atttgttttt atttattctg agaagttgag 2040
gcaaatacagt attcccaagg atggcgacaa gggcagccaa gcagggctta ggatatccca 2100
gcctaccaat atgctcattc gactaactag gagggtaggt tggccctgtc tcttcttttt 2160
tctggacctc agtttctca gtgagctggt aagaatgcac taaccttttg atttgataag 2220
ttataaattc tgtggttctg atcattgggtc cagaggggag ataggttcct gtgatttttc 2280
cttcttctct atagaataaa tgaaatcttg ttactagaac aagaaatgtc agatggccaa 2340
aaacaagatg accagatttg atctcagcct gatgacccta caggtcgtgc tatgatattg 2400
agtcctcatg ggtaaagcag gaagagagtg ggaaagagaa ccacccact ctgtcttcat 2460
atttgcatth catgtttaac ctccggctgg aaatagaaag cattccctta gagatgagga 2520
taaaagaaaag tttcagattc aacaggggga agaaaatgga gatttaatcc taaaactgtg 2580
acttggggag gtcagtcatt tacagttagt cctgtgtctt tcgacttctg tgattattaa 2640
ccccactcac taccctgttt cagatgcatt tggaaacca aagattaaat ccttgacata 2700
agatctcatt tgcagaaagc agattaaaga ccatacagaag gaaattattt aggttgtaat 2760
gcacaggcaa ctgtgagaaa ctgttggtgc aaaaatagaa ttccttctag ttttcttgt 2820
tctcatttga aaggagaaaa ttccactttg tttagcattt caagctttta tgtatccatc 2880
ccatctaaaa actcttcaaa ctccacttgt tcagtcgtga atgcagctcc ctgtccaagt 2940
gccttggaga actcacagca gcacgcctta atcaaagggt ttaccagccc ttggacacta 3000
tgaggaggagg gcaagagtac accaatttgt taaaagcaag aaaccacagt gtctcttcac 3060
tagtcattta gaacatggtt atcatccaag actactctac cctgcaacat tgaactccca 3120
agagcaaatic cacatttctc ttgagttctg cagcttctgt gtaaataggg cagctgtcgt 3180
ctatgccgta gaatcacatg atctgaggac cattcatgga agctgctaaa tagcctagtc 3240
tgaggagctc tccataaagt tttgcatgga gcaaacaaac aggattaaac taggttttgt 3300
tccttcagcc ctctaaaagc atagggctta gcctgcaggc ttccttgggc tttctctgtg 3360
tgtgtagttt tgtaaacact atagcatctg ttaagatcca gtgtccatgg aaacattccc 3420
acatgccgtg actctggact atatcagttt ttggaaagca gggttcctct gcctgctaac 3480
aagcccacgt ggaccagtct gaatgtcttt cctttacacc tatgttttta agtagtcaaa 3540
cttcaagaaa caatctaaac aagtttctgt tgcataatgt tttgtgaact tgtatttgta 3600
tttagtaggc ttctatatatt catttaactt gtttttgtaa ctctgattc ttccttttctg 3660
gatactattg atgaataaag aaattaaagt gaaaaaaaaa aaaaaaaaaa aaaa 3714

```

<210> 5

<211> 308

<212> PRT

<213> human

<220>

<223> amino acid sequence of human DG177 protein

<400> 5

Met	Trp	Lys	Arg	Trp	Leu	Ala	Leu	Ala	Leu	Ala	Leu	Val	Ala	Val	Ala	1	5	10	15
Trp	Val	Arg	Ala	Glu	Glu	Glu	Leu	Arg	Ser	Lys	Ser	Lys	Ile	Cys	Ala	20	25	30	
Asn	Val	Phe	Cys	Gly	Ala	Gly	Arg	Glu	Cys	Ala	Val	Thr	Glu	Lys	Gly	35	40	45	
Glu	Pro	Thr	Cys	Leu	Cys	Ile	Glu	Gln	Cys	Lys	Pro	His	Lys	Arg	Pro	50	55	60	
Val	Cys	Gly	Ser	Asn	Gly	Lys	Thr	Tyr	Leu	Asn	His	Cys	Glu	Leu	His	65	70	75	80
Arg	Asp	Ala	Cys	Leu	Thr	Gly	Ser	Lys	Ile	Gln	Val	Asp	Tyr	Asp	Gly	85	90	95	
His	Cys	Lys	Glu	Lys	Lys	Ser	Val	Ser	Pro	Ser	Ala	Ser	Pro	Val	Val	100	105	110	
Cys	Tyr	Gln	Ser	Asn	Arg	Asp	Glu	Leu	Arg	Arg	Arg	Ile	Ile	Gln	Trp	115	120	125	
Leu	Glu	Ala	Glu	Ile	Ile	Pro	Asp	Gly	Trp	Phe	Ser	Lys	Gly	Ser	Asn	130	135	140	
Tyr	Ser	Glu	Ile	Leu	Asp	Lys	Tyr	Phe	Lys	Asn	Phe	Asp	Asn	Gly	Asp	145	150	155	160
Ser	Arg	Leu	Asp	Ser	Ser	Glu	Phe	Leu	Lys	Phe	Val	Glu	Gln	Asn	Glu	165	170	175	
Thr	Ala	Ile	Asn	Ile	Thr	Thr	Tyr	Pro	Asp	Gln	Glu	Asn	Asn	Lys	Leu	180	185	190	
Leu	Arg	Gly	Leu	Cys	Val	Asp	Ala	Leu	Ile	Glu	Leu	Ser	Asp	Glu	Asn	195	200	205	
Ala	Asp	Trp	Lys	Leu	Ser	Phe	Gln	Glu	Phe	Leu	Lys	Cys	Leu	Asn	Pro	210	215	220	
Ser	Phe	Asn	Pro	Pro	Glu	Lys	Lys	Cys	Ala	Leu	Glu	Asp	Glu	Thr	Tyr	225	230	235	240
Ala	Asp	Gly	Ala	Glu	Thr	Glu	Val	Asp	Cys	Asn	Arg	Cys	Val	Cys	Ala	245	250	255	

Cys Gly Asn Trp Val Cys Thr Ala Met Thr Cys Asp Gly Lys Asn Gln  
260 265 270

Lys Gly Ala Gln Thr Gln Thr Glu Glu Glu Met Thr Arg Tyr Val Gln  
275 280 285

Glu Leu Gln Lys His Gln Glu Thr Ala Glu Lys Thr Lys Arg Val Ser  
290 295 300

Thr Lys Glu Ile  
305

<210> 6  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: primer

<220>  
<223> mouse DG153 forward primer

<400> 6  
agagaatcgg ttgtgctact acattg 26

<210> 7  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: primer

<220>  
<223> mouse DG153 reverse primer

<400> 7  
ggcttcgaca cctcattgat g 21

<210> 8  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<220>

<223> mouse DG153 Taqman probe

<400> 8

agccacagat gatgctgcca ccaa

24

<210> 9

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<220>

<223> mouse DG177 forward primer

<400> 9

gaagtctgcg agtccatctg c

21

<210> 10

<211> 15

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<220>

<223> mouse DG177 reverse primer

<400> 10

gcgccgtcgg agctc

15

<210> 11

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer



<220>

<223> mouse DG177 Taqman probe

<400> 11

agcccagttg tctgctatca agctaaccg

29